National Institute of Environmental Health Sciences

Community outbreak of Legionnaires disease in Vic-Gurb, Spain in October and November 2005

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Abstract:

This paper reports the investigation of a community-acquired outbreak of Legionnaires' disease in the municipalities of Vic and Gurb (Central Region of Catalonia, Spain). There were 55 cases reported in October and November 2005. An epidemiological and environmental investigation was undertaken. Thirty-five case patients (64%) lived in Vic or Gurb, while 36% had visited or worked in Vic or Gurb during the 10 days before onset of symptoms, but no commonly frequented building could be identified. Water probes for culture were obtained from 30 cooling towers. In five cooling towers of two industrial settings in Gurb (plants A and B), Legionella pneumophila (Lp) serogroup 1 was present. Two Lp-1 strains were recovered from cooling towers in plants A and B. The Lp-1 strain from plant A showed a PGFE profile identical with those obtained from three patients. The exposure to Legionella pneumophila apparently occurred in a large area, since 43 of the 55 cases lived, visited or worked within a distance of 1,800 m from plant A, and six cases in a distance between 2,500 and 3,400 m. The inspections of cooling towers in plant A revealed inadequate disinfectant doses of biocide, non-existent maintenance records on weekends and wrong sample points for routine microbial check-ups. Weather conditions in October 2005 template temperature and high humidity (wind conditions are unappreciable) could have been favourable factors in this outbreak together with the flat terrain of Gurb and Vic area, explaining the extensive horizontal airborne dissemination of contaminated aerosols. The outbreak could have been prevented by proper and correct maintenance of the cooling tower at plant A.

Source: http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=691

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution

Air Pollution: Other Air Pollution

Air Pollution (other): Aerosolized bacteria

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : Spain

Health Impact:

specification of health effect or disease related to climate change exposure

Infectious Disease, Respiratory Effect

Infectious Disease: Airborne Disease

Airborne Disease: Other Airborne Disease

Airborne Disease (other): Legionnaire's Disease

Respiratory Effect: Bronchitis/Pneumonia, Other Respiratory Effect

Respiratory Condition (other) : Legionnaires' Disease

Population of Concern: A focus of content

Other Vulnerable Population: Smokers

Resource Type:

format or standard characteristic of resource

Research Article, Research Article

Timescale:

time period studied

Time Scale Unspecified